REMARKS

Claims 8 and 13 have been amended. Claims 1 - 13 remain in the application. Reexamination and reconsideration of the application, as amended, are respectfully requested.

Claims 8 and 13 were objected to because of the use of a slash between DS and SS. Accordingly, claims 8 and 13 have been amended to recite "direct sequence spread spectrum" rather than "DS/SS."

Claims 1-3 and 5-13 were rejected under 35 U.S.C. 103(a) as being unpatentable over Seo (USP 6,222,833) in view of Garcia (USP 5,724,162). Claim 4 was rejected under 35 U.S.C. 103(a) as being unpatentable over Seo in view of Garcia and further in view of Bloom (USP 5,311,360) These rejections are respectfully traversed with respect to claims 1 – 13, as amended.

Claim 1, as amended, recites a multiple user communications system comprising a number of elements in combination. The claimed combination includes at least one optical processor for optically correlating at least one of a plurality of received signals simultaneously against a plurality of hypothesized signals to generate data comprising a plurality of correlations. The claimed optical processor comprises at least a one-dimensional optical correlator configured to produce an output comprising a multi-dimensional output array having a first dimension and a second dimension. The first dimension is associated with a hypothesis. The second dimension is associated with a correlation result.

Claim 9, as amended, similarly recites a method of reducing interference in a multiple user communications system comprising a number of steps in combination. The claimed combination includes optically correlating at least one of a plurality or received signals simultaneously against a plurality of hypothesized signals to generate data comprising a plurality of correlations. The optically correlating step comprises configuring at least a one-dimensional optical correlator to produce an output comprising a multi-dimensional output array having a first dimension and a second dimension. The first dimension is associated with a hypothesis. The second dimension is associated with a correlation result.

A similar combination of elements is neither disclosed nor suggested in Seo or Garcia, viewed alone or in combination.

Seo discloses a first box that is a correlator. Seo's correlator assumes code synch and phase lock. There is no teaching or suggestion of a requirement to scan or otherwise search for the proper alignment of the dispreading code, S1(t), with the input signal, r(t). In contrast to Seo, a primary advantage of the present invention is the provision of an efficient method for searching this space instantaneously. Seo does not disclose or suggest such an advantage. Seo's multiple correlators are not one-dimensional, but rather scalar, i.e., a single output per correlator.

Garcia merely discloses an optical correlator. The Garcia correlator is two-dimensional, but it only provides a single scalar output of the values of the correlation between a two-dimensional signal and a two-dimensional hypothesis. Garcia does not implement a hypothesis-by-time-delay type of two-dimensional correlator, like that of the present invention. Garcia does not disclose or suggest multiple outputs.

In short, both Seo and Garcia disclose scalar correlators. There is no teaching or suggestion in either reference of a one-dimensional optical correlator configured to produce an output comprising a multi-dimensional output array having a first dimension and a second dimension, as in the present invention. There is no teaching or suggestion in either reference of a multi-dimensional output array having a first dimension associated with a hypothesis, as in the present invention. There is no teaching or suggestion in either reference of a multi-dimensional output array having a second dimension associated with a correlation result, as in the present invention.

Moreover, no reason or suggestion for the proposed combination of Seo and Garcia can be found in either reference.

Where, as in the present case, two prior art references require selective combination, there must be some reason for the combination other than the hindsight gleaned from the invention itself. Something in the prior art references must suggest the desirability, and thus the obviousness, of making the combination. It is impermissible to use the claims as a frame and the prior art references as a mosaic to piece together a facsimile of the claimed invention. Uniroyal v. Rudkin-Wiley, 5 USPQ 2d 1434, 1438 (Fed. Cir. 1988).

In the present case, applicants respectfully submit that there is nothing in either Seo or Garcia which suggests the desirability (and thus the obviousness) of making the combination of elements proposed by the Examiner.

Applicants respectfully submit that the suggestion for the combination of Seo and Garcia proposed by the Examiner comes only from the claimed invention itself, not from either Seo or Garcia. The skilled person would not have found it obvious to selectively pick and choose the separate elements and concepts from Seo and Garcia so as to arrive at the claimed invention without using the present claims as a guide. Such hindsight reconstruction of the invention is not a proper criteria for determining obviousness. There must be some reason or suggestion in either Seo or Garcia for selecting and combining the elements as proposed, other than the knowledge learned from the applicants' disclosure. Interconnect Planning Corporation v. Feil, 227 USPQ 543, 551 (Fed. Cir. 1985). Applicants respectfully submit that no reason or suggestion for the proposed combination can be found in either reference.

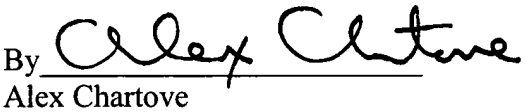
The fundamental deficiencies in the references of Seo and Garcia are not compensated for by the additional reference of Bloom. There is no teaching or suggestion in Bloom of a one-dimensional optical correlator configured to produce an output comprising a multi-dimensional output array having a first dimension and a second dimension, as in the present invention. There is no teaching or suggestion in Bloom of a multi-dimensional output array having a first dimension associated with a hypothesis, as in the present invention. There is no teaching or suggestion in Bloom of a multi-dimensional output array having a second dimension associated with a correlation result, as in the present invention.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 509622000400.

Dated: August 11, 2005

Respectfully submitted,

By 

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